

Serial No: 10/010721  
Examiner: A. Psitos  
Title: RELIEF DIFFRACTION GRATING BODY, AND OPTICAL PICK-UP AND OPTICAL INFORMATION APPARATUS  
USING SAME

### **REMARKS/ARGUMENTS**

Favorable reconsideration of this application is requested in view of the above amendments and the following remarks. A substitute copy of the certified English translation of the application that was originally filed on March 25, 2002, is enclosed herewith in response to the Examiner's request.

### **Objections to the Specification**

The title of the invention is objected to as being not descriptive. The title has been amended in response thereto. Applicants invite the Examiner's suggestions if the new title is not considered adequate.

### **Objections to the Drawings**

Figures 14 and 15 are objected to as requiring a legend such as "Prior Art". Figures 14, 15A and 15B have been revised to now be designated as "Prior Art".

### **Objections to the Claims**

Claims 10, 11, 15 and second claim numbered 11 (should be claim 16) are objected to. Claims 10 and 11 have been canceled rendering the objection of claims 10 and 11 moot.

Claim 15 is objected to as being of improper dependent form. Claim 15 has been rewritten in independent form. The objection has therefore been overcome.

Second claim 11 is objected to as being of improper dependent form and is further objected to as requiring renumbering to correctly recite claim 16. Second claim 11 has been renumbered so that it is now claim 16. Second claim 11 (now claim 16) has also been rewritten in independent form. The objections to second claim 11 (now claim 16) have therefore been overcome.

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Title: RELIEF DIFFRACTION GRATING BODY, AND OPTICAL PICK-UP AND OPTICAL INFORMATION APPARATUS  
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Claims 15 and 16 (previously second claim 11) are rejected under 35 U.S.C. §112, second paragraph. Claims 15 and 16 have been rewritten in independent form. The rejection has therefore been overcome.

Claims 1-5 and 10-14 are rejected under 35 U.S.C. §112, first and second paragraphs. Claims 1-5 and 10-14 have been canceled rendering these rejections moot.

**Claim Rejections – 35 USC §102**

Claims 7-9 and 16 are rejected under 35 U.S.C. §102(b/e) as being anticipated by Katsuma (US 6,084,710 A). Applicants respectfully traverse this rejection.

Claims 8-9 have been canceled, rendering the rejection of claims 8-9 moot. Claims 7 and 16 (previously second claim 11) remain pending in this application.

Claim 7 and claim 16 each require “a material of the base material is at least one material selected from the group consisting of Ta<sub>2</sub>O<sub>5</sub>, ZrO<sub>2</sub>, Nb<sub>2</sub>O<sub>3</sub>, ZnS, LiNbO<sub>3</sub> and LiTaO<sub>3</sub>”. Katsuma neither discloses or teaches use of such materials, but is instead limited to use of TiO<sub>2</sub>. When the TiO<sub>2</sub> material disclosed by Katsuma is subjected to ultraviolet irradiation, it discolors and causes a reduction in transmissivity. When an optical head device is assembled, an ultraviolet curable resin is used to fix optical components. A diffraction grating that is formed of TiO<sub>2</sub> is therefore subject to reduced transmissivity.

Further, the invention of claims 7 and 16 advantageously provide a refractive index  $n_1$  of the base material of 1.9 or more due to use of materials other than TiO<sub>2</sub> that are not subject to deterioration due to ultraviolet radiation, such as LiNbO<sub>3</sub>.

For at least these reasons, claims 7 and 16 (previously second claim 11) are patentable over Katsuma. New claims 17-18 depend from claim 16, and are therefore patentable over Katsuma for the same reasons. New claim 19 is patentable over Katsuma since it incorporates all the limitations of claim 16.

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Claim 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over the art as applied to claim 7, and further in view of Official notice that it would have been obvious to modify the base system of Katsuma to reduce the overall footprint. Applicants respectfully traverse this rejection for the same reasons discussed above regarding the claim rejections under 35 U.S.C. §102(b/e). The Official notice does not remedy the deficiencies of Katsuma discussed above.

Favorable reconsideration in the form of a Notice of Allowance is requested. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Dated: Oct. 31, 2005

Respectfully submitted,

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